

ABSTRACT OF THE DISCLOSURE

A multi-point communications system is set forth herein. The communications system comprises a transmitter for transmitting OFDM/DMT symbols over a predetermined number of bins across a transmission medium. The OFDM/DMT symbols are generated using at least one timing signal. At least one of the predetermined number of bins includes a pilot tone sub-symbol having a frequency corresponding to the clock signal. The communications system also includes a receiver for receiving the OFDM/DMT symbols from the transmission medium. The receiver demodulates the received symbols using at least one timing signal. The receiver has a first pilot tone search mode of operation in which the receiver adjusts its timing signal to scan the frequency range of the predetermined number of bins looking for the pilot tone sub-symbol and identifies the bin including the pilot tone sub-symbol. The receiver further has a subsequent second pilot tone acquisition mode in which the receiver adjusts the timing signal to receive the identified bin containing the pilot tone sub-symbol and measures phase differences between successive pilot tone sub-symbols to thereby perform a further adjustment of the timing signal so that the pilot tone sub-symbol is received within a frequency range sufficient for subsequent phase locked loop processing thereof.

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